

IN THE CLAIMS

Please amend the claims as follows:

1. (Currently Amended) A method for a computerized analysis of a mammogram in digital form of a breast of a patient, comprising:

extracting from the mammogram ~~at least one~~ plural fractal-based ~~feature~~ features at multiple scales associated with a texture of a parenchyma of the breast;

applying said ~~at least one~~ plural fractal-based ~~feature~~ features to at least one of a linear discriminant classifier and an artificial neural network classifier; and

generating a risk marker indicative of a breast disease risk for said patient based on an output of at least one of a linear discriminant classifier and an artificial neural network classifier.

2. (Canceled)

3. (Currently Amended) The method according to Claim 1, wherein the extracting step comprises:

extracting ~~plural fractal-based features at multiple scales~~ surface areas or volumes at multiple pixel sizes as the plural fractal-based features.

4. (Currently Amended) The method according to Claim 1, wherein the extracting step comprises:

extracting the plural fractal-based features from an area of a region of interest of the mammogram based on a box-counting method.

5. (Currently Amended) The method according to Claim 1, wherein the extracting step comprises:

extracting the plural fractal-based features from a volume of a region of interest of the mammogram based on a general Minkowski model.

6. (Previously Presented) The method according to Claim 1, wherein the applying step comprises:

applying the features to a linear discriminant analysis classifier.

7. (Previously Presented) The method according to Claim 1, wherein the applying step comprises:

applying the features to an artificial neural network classifier.

8-9. (Canceled)

10. (Previously Presented) The method according to Claim 1, wherein the extracting step comprises:

extracting from the mammogram a multi-fractal characteristic associated with the texture of the parenchyma of the breast.

11. (Currently Amended) A system for computerized analysis of a mammogram in digital form of a breast of a patient, comprising:

a feature extraction mechanism that extracts from the mammogram ~~at least one plural~~ fractal-based ~~feature~~ features at multiple scales associated with a texture of a parenchyma of the breast;

a classifier mechanism including at least one of a linear discriminant classifier and an artificial neural network to which the ~~at least one plural~~ fractal-based ~~feature is~~ features are applied; and

a risk marker generator that generates a risk marker indicative of a breast disease risk for said patient based on an output of the classifier mechanism.

12. (Canceled)

13. (Currently Amended) The system according to Claim 11, wherein the feature extraction mechanism extracts ~~plural fractal-based features at multiple scales~~ surface areas or volumes at multiple pixel sizes as the plural fractal-based features.

14. (Currently Amended) The system according to Claim 11, wherein the feature extraction mechanism extracts the plural fractal-based features from an area of a region of interest of the mammogram based on a box-counting method.

15. (Currently Amended) The system according to Claim 11, wherein the feature extraction mechanism extracts the plural fractal-based features from a volume of a region of interest of the mammogram based on a general Minkowski model.

16. (Previously Presented) The system according to Claim 11, wherein the classifier mechanism comprises a linear discriminant analysis classifier.

17. (Previously Presented). The system according to Claim 11, wherein the classifier mechanism comprises an artificial neural network classifier.

18-19. (Canceled)

20. (Previously Presented) The system according to Claim 11, wherein the feature extraction mechanism extracts from the mammogram a multi-fractal characteristic associated with the texture of the parenchyma of the breast.

21. (Currently Amended) A computer readable medium storing instructions for execution on a computer system, which when executed by the computer system, causes the computer system to perform a method for a computerized analysis of a mammogram in digital form of a breast of a patient, comprising the steps of:

extracting from the mammogram ~~at least one plural~~ fractal-based ~~feature~~ features at multiple scales associated with a texture of a parenchyma of the breast;

applying said ~~at least one plural~~ fractal-based ~~feature~~ features to at least one of a linear discriminant classifier and an artificial neural network classifier; and

generating a risk marker indicative of a breast disease risk for said patient based on an output of the at least one of a linear discriminant classifier and an artificial neural network classifier.

22. (Canceled)

23. (Currently Amended) The computer readable medium according to Claim 21, wherein the extracting step comprises:

extracting ~~plural fractal-based features at multiple scales~~ surface areas or volumes at multiple pixel sizes as the plural fractal-based features.

24. (Currently Amended) The computer readable medium according to Claim 21, wherein the extracting step comprises:

extracting the plural fractal-based features from an area of a region of interest of the mammogram based on a box-counting method.

25. (Currently Amended) The computer readable medium according to Claim 21, wherein the extracting step comprises:

extracting the plural fractal-based features from a volume of a region of interest of the mammogram based on a general Minkowski model.

26. (Previously Presented) The computer readable medium according to Claim 21, wherein the applying step comprises:

applying the features to a linear discriminant analysis classifier.

27. (Previously Presented) The computer readable medium according to Claim 21, wherein the applying step comprises:

applying the features to an artificial neural network classifier.

28-29. (Canceled)

30. (Previously Presented) The computer readable medium according to Claim 21, wherein the extracting step comprises:

extracting from the mammogram a multi-fractal characteristic associated with the texture of the parenchyma of the breast.